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THE EMPLOYMENT SITUATION IN OHIO

Manufacturing Employment in Ohio and in the United States

Through the cooperation of the manufacturers of Ohio and by reason of the assembled data prepared for the forthcoming study, Industrial and Commercial Ohio, the Bureau of Business Research is presenting for the first time an index on manufacturing employment in Ohio (See Chart III). Some description of the data upon which the charts presented in this supplement are based, and the method used in the computation of the indexes will be found on page 5 of this supplement.

The progress of total manufacturing employment in Ohio since the war in comparison with the progress of total manufacturing employment in the United States during the same period is shown in Chart I. The comparison shows a cycle of manufacturing employment in Ohio beginning July, 1924, and ending January, 1928. In manufacturing there was an upturn of employment in February. Whether this upturn is temporary and to be followed by further declines as in 1927, it is too early to say. There is no regular seasonal movement in manufacturing employment, although January and February have been especially good months from 1925 to date. The curve for the United States shows employment to January, 1928. The close correspondence between the movement of the Ohio curve and that for the country as a whole indicates that the United States curve of employment will also show some upturn in February.

CHART I

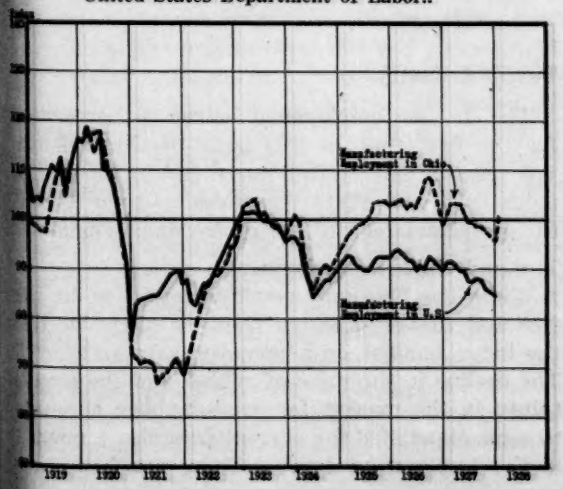
MANUFACTURING EMPLOYMENT IN OHIO AND THE UNITED STATES

January, 1919, to February, 1928

Average Month 1923 Equals 100

Sources: Bureau of Business Research, Ohio State University.

United States Department of Labor..



In 1926, employment in Ohio manufacturing recovered what had been lost after the recession of 1924, went above the maximum employment in 1923, and is not far below that maximum at the present time. However, the United States curve on manufacturing employment reached a low point in January on substantially the same level as the low point of employment in 1924. The trend of manufacturing employment in Ohio since 1922 has been upward, whereas the trend of manufacturing employment in the United States in the same period has been downward. The spread between the two curves since 1924 has been especially notable.

It is also important to observe that the amplitude of the fluctuations of employment in Ohio is generally larger than in the United States as a whole. This is due mainly to the importance of the iron and steel industry in this State. The result of this wide fluctuation of employment is that Ohio manufacturing suffers more severely from an industrial depression than does manufacturing in the country as a whole. Industry in Ohio would achieve a great gain if it could be developed in the direction of smoothing out its employment curve and reducing the losses from cyclical fluctuations in employment.

Iron and Steel

It is quite significant that the upturn in iron and steel employment in Ohio, as shown in Chart II, preceded by about three months the improvement in manufacturing employment in February. The increase in iron and steel employment in February was the largest increase since the current upturn began. The cylical fluctuations of employment in the iron and steel industry in Ohio are wider than for Ohio manufacturing as a whole.

Machinery Manufacturing

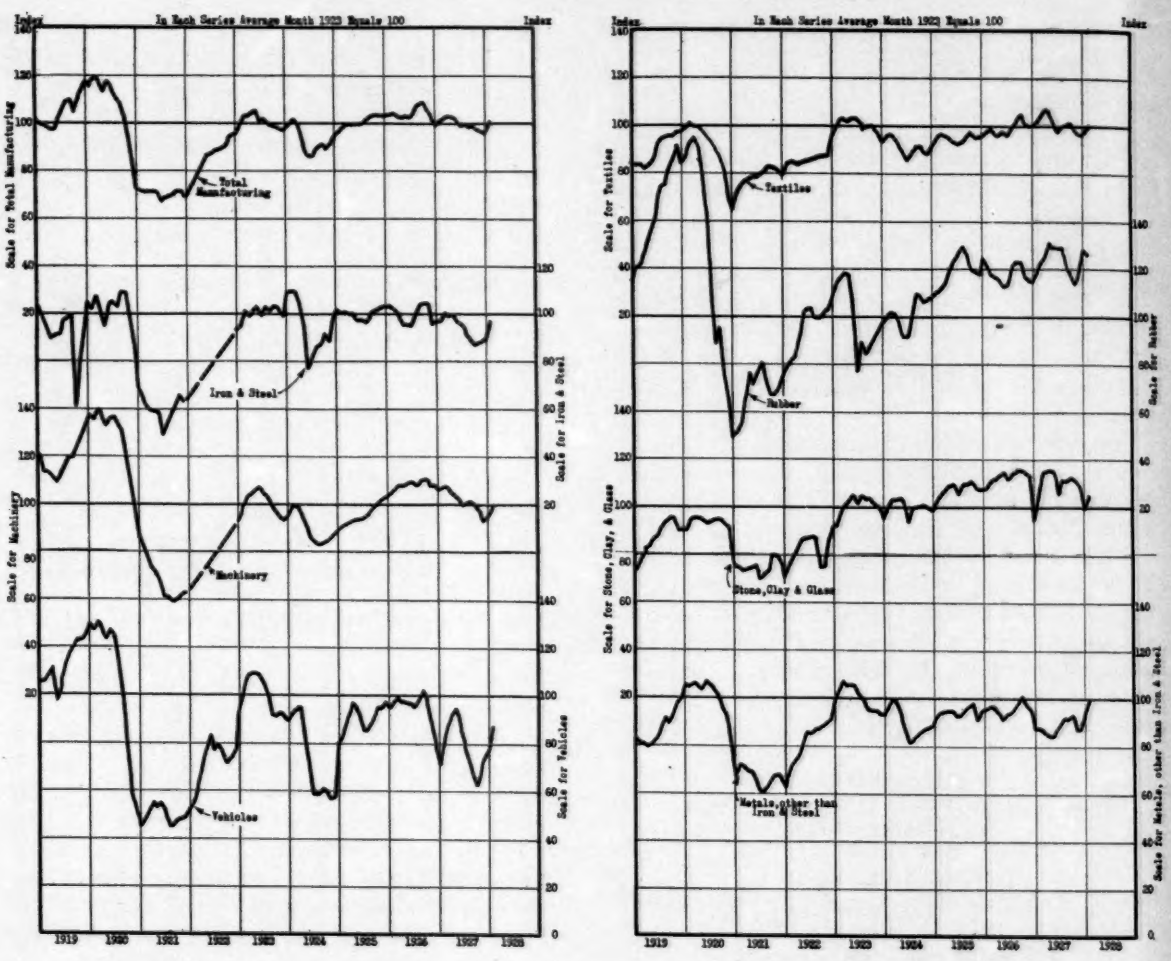
The Bureau is presenting for the first time the curve on employment in machinery manufactur-

CHART II

EMPLOYMENT IN OHIO MANUFACTURING
By Industrial Groups

January, 1919, to February, 1928

In each series Average month, 1923 equals 100



ing in Ohio. There has been a steady increase in employment in the manufacture of machinery for the past two months. There is substantially no seasonality in the curve, the fluctuations being mainly cyclical in character.

Manufacture of Vehicles

The curve on employment in the manufacture of vehicles in Ohio, including passenger automobiles, shows a fluctuation both seasonal and cyclical. The cycle of employment in the industry is about the same as that in the iron and steel industry, although the upturn in the fall preceded by one month the upturn in the iron and steel curve.

Textile Industry

The textile employment curve is presented for the first time in this issue of the Bulletin. The seasonal and cyclical movement of the textile industry in the State resembles to some extent the movements of tire and rubber employment.

Tire and Rubber Employment

While the February employment index in the tire and rubber industry shows a slight decline the index remains on a comparatively high level. The decline in the price of rubber and the uncertainty in the market for crude rubber accounts to some extent for the current irregular tendency in the employment curve. There are few other

industries in the State where the trend of employment since the war has been more sharply upward than in the tire and rubber industry. Employment in the industry is characterized by rather wide seasonal and cyclical fluctuations.

Stone, Clay and Glass

There was in February the usual seasonal improvement of employment in the industry. While the January decline in the employment curve was less marked than in January, 1927, it was larger than the decline in any other January since the depression of 1921. In 1925 and 1926, employment in the industry was comparatively regular and showed an upward trend. It was less regular and less satisfactory in 1927.

Metals, Other than Iron and Steel

There was a marked improvement in employment in this industry during both January and February. The upward movement was considerably in excess of the usual seasonal improvement. The cyclical movement of the index resembles that in the iron and steel industry.

Industrial Employment in Ohio and the Chief Counties

The Bureau's industrial employment curve includes construction employment with manufacturing employment. Since the purpose of these charts is to show fluctuations of total employment none of the indexes have been corrected for seasonal movements (See Chart III). The drop in Cuyahoga County employment in 1926 was due mainly to the strike in the building trades. Moreover, the construction employment curve accentuates the appearance of winter slumps in employment.

Prior to 1925, the data for the index were taken from the total employment reports to the Industrial Commission. These reports contain trade employment. From 1926 to date trade employment is not included. Trade employment, however, is so regular that the fluctuations in the industrial employment curves are a good indication of the tendency of current fluctuations in total employment. Since all of these curves are presented for the first time they are subject to correction and improvement. It is believed, however, that the Bureau is now close to the realization of its aims in the presentation of a series of indexes which represent, with fairly close approximation to fact, the movement of employment, not only in the State as a whole, but in the cities and industrial areas of the State as well. At least once each year it is expected that the index numbers will be published so that they may be available for other students who may desire to make use of them.

If the industrial employment curve be compared with manufacturing employment it will be noted that, on an average, there is more regularity in the industrial employment curves. This is due partly to the fact that in dull manufacturing periods since 1922 construction employment has continued good. Moreover, the dip in manufacturing employment in the summer of 1924 was partly offset by unusually large construction employment at that time. In the period prior to 1923, all employment, except in mines, is included as reported to the Industrial Commission. About the same improvement is found in the total industrial employment in January and February as was found in manufacturing employment.

Cuyahoga County

It will be noted that, in general, the total employment in Ohio follows more closely the trend of total employment in Cuyahoga County than in any other county of the State. As will be shown in Industrial and Commercial Ohio, the total employment in Cuyahoga County is a large fraction of the total in the State. Employment in Cuyahoga County dropped a little lower in November than did the average for the State. This is due partly to the importance of the iron and steel industry in that area. The improvement in the employment situation in January and February was about the same in Cuyahoga County as in the State as a whole.

Hamilton County

The fluctuations of total employment in Hamilton County are less than the fluctuations in any other important county of the State. That is due partly to the importance of Cincinnati as a trade center, and partly to the diversification of manufacturing there. The drop in the index in January, 1926, is due more to the fact that the trade index data are not included after that date than to any significant decline in employment there. Trade employment has had more of an upward trend in Cincinnati than has manufacturing employment as will be revealed more fully when the Bureau's Industrial and Commercial Ohio study is made available. There was a sharp dip in employment in Hamilton County in December and also a decided recovery in January and February.

Lucas County

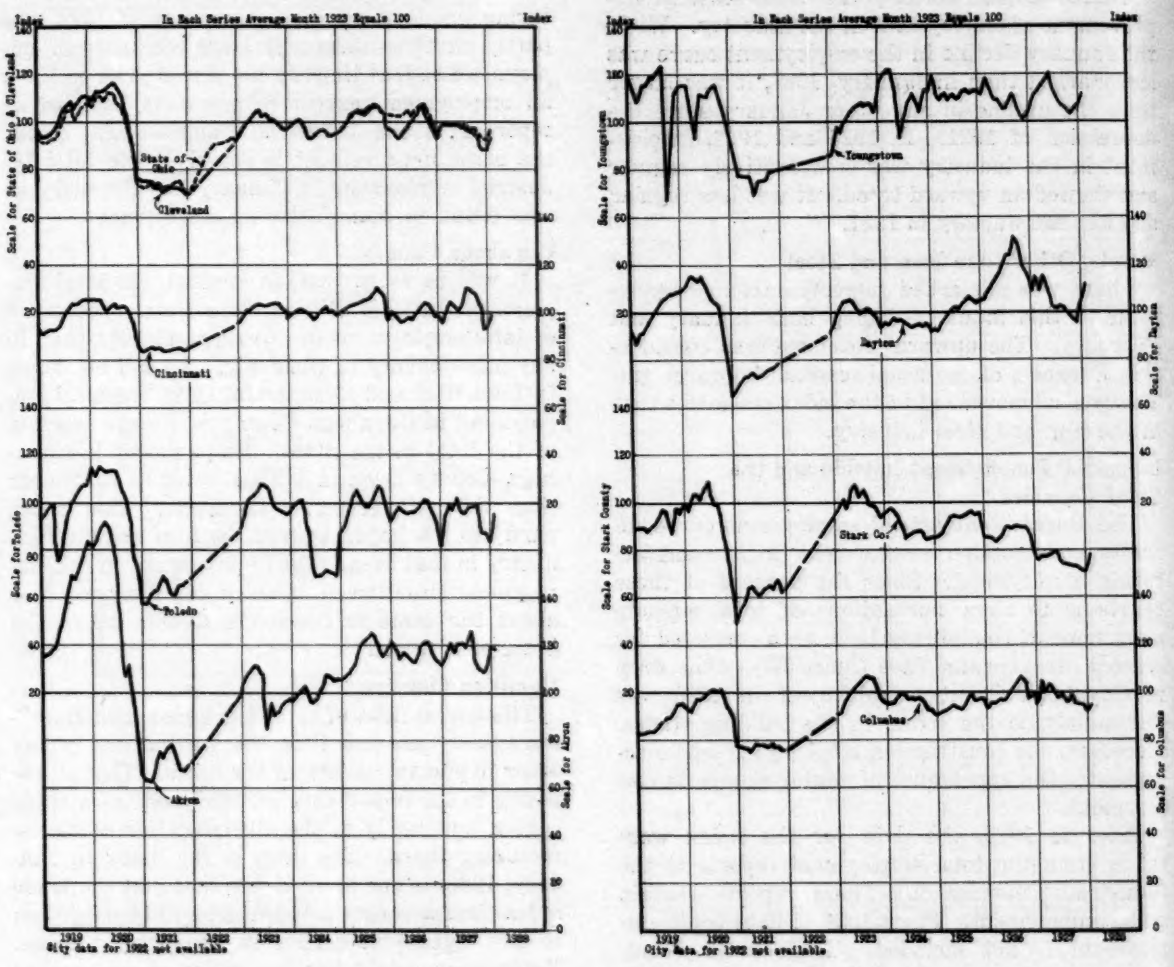
The fluctuations of employment in Lucas County are due largely to the fluctuations in employment in the production of automobiles and automobile parts in Toledo. There is a striking similarity in the fluctuations of the index in 1925 and 1927. The improvement in employment in January and February is especially striking in Lucas County. There is an unusual seasonality

CHART III

INDUSTRIAL EMPLOYMENT IN OHIO AND OHIO CITIES

January, 1919, to February, 1928

In each series Average month 1923 equals 100



of employment mainly on account of the character of the predominating group of industries there.

Summit County

There was a very sharp rise of employment in Summit County (Akron) in January but a slight reaction in February. The tire and rubber industry largely dominates the employment situation in Summit County. The check of the rise in employment in February is probably due to the uncertainty in the crude rubber market in view of the deliberations in the English Parliament on the continuation of the current restrictions on the exportation of rubber.

The seasonal character of employment in Summit County is also due to the seasonality in the operations of the tire and rubber industry.

Mahoning County

The employment situation in Mahoning County (the Youngstown area) is affected mainly by employment in steel works and rolling mills. The rise in employment there during the past three months corresponds closely to the increase in the activity in the iron and steel industry.

Montgomery County

The striking feature of the employment curve in Montgomery County (the Dayton area) is the large increase in employment there in 1926. This increase is due mainly to an increase in machinery manufacturing there in that year.

The upturn in employment during the past two months followed, after one month, the upturn in the iron and steel employment. There have been important construction developments there in connection with the rise of machinery manufacture, which has affected all industries. These large developments are frequently attended by considerable fluctuations of employment such as have prevailed there since 1925.

Stark County

The downward trend in industrial employment in Stark County (the Canton area) since 1923 has not been attended by a like decline in iron and steel production there. It has been connected more with some decline in machinery manufacturing and in the manufacture of metals other than iron and steel. It will be noted that there was a sharp upturn in employment in Stark County in February.

Franklin County

The industrial situation in Franklin County (the Columbus area) has shown comparative stability since 1923. Employment fluctuations there have not been materially wider, on an average, than in Hamilton County. Hamilton and Franklin Counties show greater stability than any other important industrial areas. Trade employment leads all other lines in both counties, and investment in manufactures shows unusual diversity in both areas. There was a moderate upturn in employment in Franklin County in February.

Basis of the Curves on Employment

Table I shows the number and grouping of the Bureau cooperators whose reports are the basis of the indexes since 1925, in so far as they apply to manufactures. For the industrial production curves, the index of employment by general contractors was included with those shown in Table I and each index was given a weighting in proportion to its importance as shown by the number of wage earners in the industry, or group of industries, in the reports to the Industrial Commission in 1923.

The statistical tests made by the Bureau show that the curve on total manufactures is highly reliable. The curves on manufacturing in the subsidiary groups and industries, and the indexes of industrial employment in localities are somewhat less reliable. The Bureau expects to improve the basis of the locality curves by securing additional

TABLE I

COMPARATIVE STATUS OF THE INDEXES OF EMPLOYMENT IN OHIO IN JANUARY AND FEBRUARY OF 1928 AND 1927 FOR INDIVIDUAL INDUSTRIES AND GROUPS OF INDUSTRIES

Sources: Ohio Industrial Commission and Bureau of Business Research.

Industry	Index Jan. 1928	Index Feb. 1928	Change from Feb. 1927	Average Jan.-Feb. 1928 Change from 1927
			%	%
CHEMICALS (15)*.....	111	111	— 5	— 4
FOOD PRODUCTS (34)	101	105	+ 9	+ 7
Bakery (9).....	115	117	+ 4	+ 3
Miscellaneous (25)...	100	105	+ 12	+ 10
IRON AND STEEL (42)	89	97	— .1	— 4
Blast Furnaces (8)...	82	61	— 47	— 36
St. Works and Rolling Mills (14)	93	100	+ 2	— 3
Stoves and Fur. (5)..	82	93	— .3	— 5
Miscellaneous (15) ..	61	74	+ 2	— 6
LUMBER PROD'S (11)	82	83	— 10	— 11
MACHINERY (148) ...	94	99	— 8	— 9
Elec. Machinery (13).	180	206	+ 32	+ 19
Foundry and Machine Shops (101)	82	87	— 13	— 13
Machine Tools (12)..	78	84	— 7	— 13
Calculating Machines (9)	90	88	— 6	— 5
Miscellaneous (13) ..	111	114	— 5	— 7
OTHER METALS (16).	93	99	+ 14	+ 11
Copper, Tin and Iron (10)	94	100	+ 16	+ 12
Miscellaneous (6)....	91	93	— 3	— 1
PAPER & PTG. (31)...	117	117	— 2	— 3
Ptg. and Pub'ing (18)	129	128	+ .4	+ 1
Miscellaneous (13)...	105	108	— 5	— 7
RUBBER PROD. (22)..	128	127	+ 8	+ 10
Tires & Tubes (18)...	129	128	+ 9	+ 11
Miscellaneous (4) ...	119	121	— 8	— 8
STONE, CLAY AND GLASS (41).....	98	104	+ 3	+ 3
Brick and Tile (12)...	131	133	+ 2	+ 3
Pottery, Terra Cotta (19).....	75	81	— 11	— 11
Miscellaneous (10) ..	100	108	+ 19	+ 20
TEXTILES (26)	96	100	— 2	— 3
Men's Clothing (9)...	117	121	— 3	— 3
Miscellaneous (17) ..	86	90	— 1	— 3
VEHICLES (44)	77	87	+ 10	+ 9
Autos and Parts (35).	75	82	— 6	— 5
Miscellaneous (9).....	—	—	—	—
TOTAL MISCELLANEOUS (19) ...	97	101	0	— 3
TOTAL MANUFACTURING (450)	96	101	+ .1	— 1

* Figures in parentheses indicate number of reporting firms.

cooperators. The data on all the local indexes will be presented in detail at a later time in a separate statistical number.

Chart XII of the January Bulletin of Business Research indicates the relative importance of ten of the chief industries of the State, and the first chapter of Industrial and Commercial Ohio, to be made available at an early date, will show the relative importance of the various groups and the various industries included in Table I.

Production and Employment in the United States

There has been recently a wide discussion in the United States on the matter of the relation between total employment and total production in the United States since the war. *The Annalist* of March 9 pointed out that improved machinery in all lines of activity had so increased the per capita productivity of the workers that there was developing an unemployment situation out of the incidental readjustments in employment required by these improvements.

The Bureau has analyzed more fully the situation in manufactures where the greatest improvement in per capita productivity was found. Chart IV shows in a graphic way the movements of the index of employment in the United States and the indexes of production since the war, taking 1923 as a base in both cases.

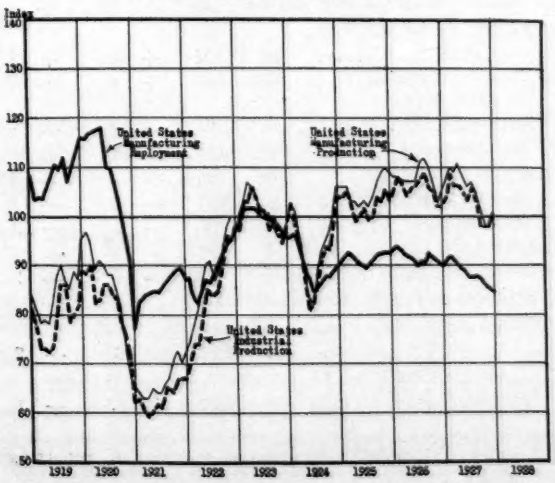
CHART IV

PRODUCTION AND EMPLOYMENT IN THE UNITED STATES

January, 1919, to January, 1928

Average Month 1923 Equals 100

Sources: Federal Reserve Board.
United States Department of Labor
Standard Statistics Company.



The Federal Reserve Board index averaged 101 for 1923 and hence it was not necessary to correct to the 1923 base in the Federal Reserve Board's index of factory production shown in the fine line. In November, 1927, the index of production and the index of factory production stood at 98. At the same time the index of factory employment stood at 94. If one takes a period of activity such as April, 1926, it will be found that the index of employment stood at 101 and the index of production at 107. In May, 1927, the factory production index stood at 111 and the employment index at 106. This indicates that since 1923 there has been an increase of about 6 per cent in per capita productivity in manufacturing when the test has been applied to a period of active factory operation. The data in Table II will serve to compare employment and production in 1919 and 1927.

TABLE II

COMPARISON OF FACTORY PRODUCTION AND EMPLOYMENT

Index Name	Index Numbers		Per Cent Change from 1919
	1919	1927	
Factory Production.....	84	105	+25
Factory Employment.....	118	96	—19
Per Capita Productivity..	71	109	+54

The dotted line showing industrial production shows that while per capita productivity has increased slightly more in the factory field than elsewhere, it has, at the same time, increased by almost as much in other lines of production such as mining, agriculture, etc.

It is doubtful, however, to suggest that current unemployment is mainly due to improvements in machinery. So far as the indexes tell the story, the major share of the improvements became effective as early as 1923, the improvements since that date increasing productivity only about 6 per cent. It has not been suggested heretofore that 1925 and 1926 could be characterized as years when there was a great deal of unemployment. While improvements in machinery may have been a factor in the situation, the chief difficulty has been that of cyclical unemployment which is not a new phenomenon.